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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|-------------------------|---------------------|------------------|
| 10/568,039 | 09/25/2006 | Detlef Schulze-hagenest | N81789LPK | 2948 |
| 1333 7590 08/03/2010 EASTMAN KODAK COMPANY PATENT LEGAL STAFF 343 STATE STREET ROCHESTER, NY 14650-2201 | | | | |
| EXAMINER | | | | |
| DOTE, JANIS L | | | | |
| ART UNIT | | PAPER NUMBER | | |
| 1795 | | | | |
| MAIL DATE | | DELIVERY MODE | | |
| 08/03/2010 | | PAPER | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary**Application No.**

10/568,039

Applicant(s)

SCHULZE-HAGENEST ET AL.

Examiner

Janis L. Dote

Art Unit

1795

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/22)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicants' submission filed on May 17, 2010.

2. The examiner acknowledges the amendment to claim 10 and the addition of claims 14 and 15 filed on May 17, 2010.

Claims 10-15 are pending.

3. In light of the disclosure in the instant specification, the examiner has interpreted the term "aromatic substance" recited in instant claims as any substance that smells, i.e., that has an aroma, smelling sweet or spicy, fragrant or pungent, etc. See the disclosure in the instant specification at page 5, lines 1-7, which states "[w]hile not intended to be all-inclusive, the following represents a list of possible aromatic substances that can added to a toner: Lemon oil, clove, geranium, lavender . . . cat food, dog food . . . or the like.

There are, in fact, no limits with respect to the aromatic substance that may be used."

Rejections based on this interpretation are set forth infra.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 10-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10 is indefinite because at line 7 it has a period "." in the middle of the claim. It is not clear where the claim ends.

Claim 10 is further indefinite in the phrase "said at least one first printing unit located upstream of said fuser mechanism (13) for applying and fixing to a printing medium (8). [sic] a toner for forming an image to be reproduced" (emphasis added). It is not clear how the first printing unit both applies and fixes the toner to the printing medium, when

claim 10 previously requires a "fuser mechanism (13) for fixing a toner-based printing format on a printing medium formed by said at least one first printing unit" (emphasis added).

Claim 14 is indefinite in the terms "electrophotographic printing system" and "electrophotographic imaging system" (emphasis added) because it is not clear what is meant by terms "electrophotographic printing system" and "electrophotographic imaging system." The instant specification does not define said terms. Nor is there any disclosure in the instant specification that a person having ordinary skill in the electrophotographic arts would have understood what the terms meant.

Claim 14 is also indefinite in the phrase "an ink jet mechanism for transferring an ink (15) that contains an aromatic substance to the toner" (emphasis added) for lack of unambiguous antecedent basis in claim 14. It is not clear to what toner the ink is transferred, e.g., the toner, itself, the pattern comprising the toner before transfer, the transferred toner pattern on the printing medium, or to the "fused" toner pattern on the printing medium."

6. The following is a quotation of the first paragraph of 35

U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 14 and 15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

(1) Instant claim 14 and claim 15, which depends from claim 14, recite a printer comprising "an electrophotographic printing system having at least one electrophotographic imaging system to form at least one pattern of toner and to transfer the . . . one pattern of toner to a printing medium with the electrophotographic printing system having least one fuser for fusing the toner transferred to the printing medium" (emphasis added).

The originally filed specification does not provide an adequate written description of the printer comprising at least

one electrophotographic printing system as recited in the instant claims. There is no description in the originally filed specification of "an electrophotographic printing system" or of an "electrophotographic imaging system" as recited in the instant claims. In addition, the phrase "at least one" includes more than one fuser mechanism. The originally filed specification at page 7, lines 13-22, describes the printing machine 1' shown in Fig. 3. According to the originally filed specification, printing machine 1' comprises four printing units, numbered **3** to **6**, which transfer toner for the colors cyan (C) magenta (M), yellow (Y), and black (K) onto the printing medium, and only one fuser mechanism **13** that is located downstream from the printing units. The term "system" broadens the originally described printing machine or printing unit. The term "system" encompasses more than the terms "machine" or "unit," which imply a discrete entity. Furthermore, the originally filed specification does not describe a printing machine or a "printing system" comprising more than one fuser mechanism as recited in instant claim 14. Applicants have not indicated where in the originally filed specification there is an adequate written description of the printer recited in instant claim 14.

(2) Instant claim 14 and claim 15, which depends from claim 14, further recites that the "electrographic printing system and the ink jet mechanism are arranged such that ink applied by the ink jet mechanism is applied only after fusing of all the patterns of toner on the printing medium is complete."

The originally filed specification does not describe the location of the ink jet mechanism and printing system as broadly recited in instant claim 14. As discussed in item (1), the originally filed specification at page 7, lines 13-22, describes the printing machine 1' shown in Fig. 3. In Fig. 3, the four printing units are located "upstream" from the single fuser mechanism **13** and the ink jet mechanism **20** is located "downstream" from the single fuser mechanism **13**. The recitation "printing system and the ink jet mechanism are arranged such that ink applied by the ink jet mechanism is applied only after fusing of all the patterns of toner on the printing medium is complete" is broader than the structural relationship described in the originally filed specification because it includes printers where the printing system is not located upstream from a single fuser mechanism and where the ink jet mechanism is not located downstream from the same fuser mechanism. Applicants have not indicated where in the originally filed specification

there is an adequate written description of the structural relationship recited in instant claim 14.

8. Claim 10 is objected to because of the following informalities:

The term "the receiver" in the phrase "second printing unit applies the ink after fusing of the toner on the receiver is completed" (emphasis added) lacks antecedent basis in claim 10. Claim 10 previously recites "applying and fixing to a printing medium (8).[sic] a toner . . . " (emphasis added), not to a receiver.

Appropriate correction is required.

9. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

10. Claims 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,535,712 B2 (Richards) combined with WO 00/79346 A1 (Levy) ("corrected version").

Richards discloses a printing apparatus for controlling gloss. Col. 4, lines 6-8. The apparatus comprises an electrophotographic toner printing unit **400** for forming a colored toner image on a substrate and a clear application

unit **406** that applies a clear toner over the colored toner image. The clear application unit **406** may be an electrophotographic toner printing unit or an inkjet (piezoelectric or thermal) printing unit, and the clear toner may be a solid or a liquid. The printing unit **400** may comprise more than one color toner printing unit. Fig. 1b, and col. 9, lines 1-24. Also see col. 6, lines 52-53, which also discloses that the "clear . . . toners of the invention may be solid or liquid." According to Richards, the clear toner may be applied to an unfixed or fixed colored toner image. Col. 4, lines 9-13. Richards teaches that the clear application unit may be placed after the fuser or fixer that fixes the color toner image to the substrate. Col. 5, lines 51-53, and for example, Fig. 3. Fig. 3 shows a printing apparatus comprising the clear toner application unit **200** after the fuser.

Thus, when the clear application unit **406** is an inkjet unit and it is placed after the fuser or fixer that fixes the color toner image to the substrate, the Richards printing apparatus meets the structural limitations of the apparatus recited in instant claims 10-13, but for the presence of an ink comprising an aromatic substance.

Richards does not limit the composition of the inkjet clear liquid toner used in the inkjet unit in the printing apparatus.

According to Richards, "suitable inkjet clear toners include any of the 'ink' compositions used in inkjet printing, but without the colorant, dye, or pigment. Typical these compositions comprise an aqueous vehicle containing one or more water-miscible organic solvents. Additionally, these inks may further comprise additives to improve a given property, such as waterfastness, color bleed, and the like. . . ." (emphasis added). Col. 56-67.

Levy teaches that a fragrance agent may be added to non-colored inkjet inks. Page 1, lines 1-10; page 5, lines 29-31; page 7, lines 19-24; and page 8, lines 3-8. In inkjet inks, the fragrance agent may be present as microparticles or in soluble form in the carrier solvent. Page 7, lines 19-24. According to Levy, the fragrant non-colored inkjet ink provides a fragrant printed article. Page 4, lines 1-14; page 8, lines 3-8 and 16-18; and Fig. 2. Levy further teaches that fragrant non-colored inkjet ink images may overlap a portion or all of the printed colored toner images. Page 8, lines 22-25.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Levy, to incorporate a fragrance agent as taught by Levy in the clear inkjet ink composition in the printing apparatus disclosed by Richards comprising the clear inkjet application unit. That

person would have had a reasonable expectation of successfully obtaining a printing apparatus that provides fragrant glossy colored printed media.

Applicants' arguments filed on May 17, 2010, have been fully considered but they are not persuasive.

Applicants assert that the prior art "does not teach or suggest a system wherein a second printing unit applies an ink that contains an aromatic substance after fusing of the toner on the receiver is completed" as recited in the instant claims. Applicants assert that Richards' clear application unit "applies a clear toner, not an ink, to the receiver . . . Such a clear toner must be fixed or fused and as such toner ultimately will be fused . . ." Applicants allege that the "heat of fusing can disrupt the delicate balance of aromatic emissions that form many fragrances."

Applicants' assertions are not persuasive for the following reasons:

(1) Instant claim 10 is drawn to an apparatus, not to a method. Instant claim 10 recites "said first printing unit located upstream of said fuser mechanism (13) for applying and fixing to a printing medium (8). [sic] a toner for forming an image . . . at least one second printing unit (20) . . . that includes an ink (15) that contains an aromatic substance wherein

the second printing unit applies the ink after fusing of the toner on the receiver is completed." The recitation in claim 10 does not exclude an apparatus that further fixes or fuses the ink applied to the fused toner image on the receiver, as disclosed in Richards. As discussed in the rejection, Richards teaches applying the inkjet liquid clear toner to the fused color toner images on the substrate, which meets the ink application limitation recited in instant claim 10.

(2) As discussed in the rejection, Richards teaches that the inkjet liquid clear toners can be "any of the 'ink' compositions used in inkjet printing." Thus, the prior art recognizes that inkjet inks can be used as liquid clear toners in inkjet printing. There appears to be no description in the originally filed specification that excludes the Richards inkjet clear toners from the broadly recited "ink" in instant claim 10.

(3) The alleged benefits do not correspond to claim limitations that distinguish over the prior art. In addition, there is no evidence on the present record to support applicants' allegation that "heat of fusing can disrupt the delicate balance of aromatic emissions that form many fragrances." According to the originally filed specification at page 4, lines 13-16, the "objective of the invention is achieved according to the invention by a toner . . . that contains at

least one aromatic substance whose purpose it is to at least influence the scent emitted by the printing medium and/or the printing format" (emphasis added). The originally filed specification at page 5, lines 21-22, discloses that "the toner containing the aromatic substance can be fused simultaneously with the other toners used in the printing machine."

Accordingly, the rejection of claims 10-13 over the combined teachings of the cited prior art stands.

11. Claims 14 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by US 2003/0063912 A1 (Miyazaki).

Miyazaki discloses an image forming apparatus for forming a "color image with a powder toner and a liquid ink."

Paragraph 0002 and sole figure. The apparatus comprises:

an electrophotographic image forming unit **I** that forms a toner image on the photosensitive drum **1** and transfers the toner image via the transfer means **5** onto a recording medium **P** (paragraph 0036);

a heat fixing device **12** comprising a pair of fixing rollers that fixes the toner image to the recording member **P** (paragraph 0038, lines 10-15); and

an ink-jet recording section **25** comprising ink-jet recording heads that apply color liquid inks on the fixed toner image on the recording medium **P** (paragraphs 0039-0041). See the figure and also paragraphs 0011 and 0046. The color liquid inks comprise a colorant in a non-aqueous solvent. Paragraph 0011, last two lines. The electrophotographic image forming unit **I** is located upstream from the heat fixing device **12** and the ink-jet recording section **25** is located downstream from the heat fixing device **12**. See the figure.

Thus, the Miyazaki image forming apparatus meets the structural limitations of the apparatus recited in instant claims 14 and 15, but for the presence of an aromatic substance in the color liquid inks contained in the ink-jet recording section **25**.

However, the instant claims do not positively recite that the ink jet unit comprises the ink comprising an aromatic substance as recited in instant claim 14. Rather, instant claim 14 recites "an ink jet mechanism for transferring an ink (15) that contains an aromatic substance to the toner . . ." (emphasis added). A material (i.e., the ink comprising an aromatic substance) worked upon by the apparatus does not limit the apparatus claims. "Inclusion of material or article worked upon by a structure being claimed does not impart patentability

to the claims." See MPEP 2115. It is well settled, as stated in Ex parte Masham, 2 USPQ2d 1647, 1648 (Bd. Pat. App. & Int. 1987) that "a recitation with respect to the material intended to be worked upon by a claimed apparatus does not impose any structural limitations upon the claimed apparatus which differentiates it from the prior art apparatus satisfying the structural limitations of that claimed." Accordingly, the particular ink recited in the instant claims does not distinguish the instantly claimed printer from the printer disclosed by Miyazaki.

12. Claims 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyazaki combined with US 2002/0174800 A1 (Moreland).

Miyazaki discloses an image forming apparatus for forming a color image with a powder toner and a liquid ink, as described in paragraph 11 above, which is incorporated herein by reference.

For the reasons discussed in paragraph 11 above, the Miyazaki apparatus meets the structural limitations of the apparatus recited in instant claims 10-15, but for the presence of an aromatic substance in the color liquid inks in the Miyazaki ink-jet recording section **25**.

Miyazaki does not disclose that the liquid inks comprising a colorant in a non-aqueous solvent further comprise an aromatic substance as recited in the instant claims. According to Miyazaki, as the non-aqueous solvent, "is used any of other colorless liquids than water, for example, ketones, alcohols and carboxylic acid esters." Paragraph 0023. Miyazaki does not limit the composition of the liquid inks.

However, it is well known in the ink art to add a fragrant oil to liquid inks used for ink jet printing, as shown in Moreland. Moreland teaches that scented color liquid inks can be used in ink jet printing. Paragraph 0001. Moreland describes liquid inks comprising one or more coloring agents and at least one fragrant oil, and a carrier for the coloring agent. Paragraph 0013, 0017 and 0026-0083, and example 1 in paragraph 0102. Moreland teaches that the carrier for the coloring agents can be a non-aqueous solvent, such as an alcohol or a glycol solvent or a plasticizer, such as phthalic acid esters. Paragraph 0022; paragraphs 0086-0088; and reference claim 7. The Moreland non-aqueous solvent carrier is within the teachings of Miyazaki non-aqueous solvent.

The Moreland scented liquid ink is made by forming an ink jet ink and adding the fragrant oil. See example 1. According to Moreland, when the scented ink jet ink is used in an ink jet

printer, the printer provides printed ink images on paper with a fragrant aroma. See example 1 and example 2 in paragraph 0105. Moreland further teaches that scented inks "generate aromas from the printer during operation and scented printed articles produced therefrom," such as "greeting cards with fragrant printed images or indicia." Paragraphs 0001, 0011, and 0013.

Moreland does not explicitly disclose that the fragrant oil is added to the ink composition in "concentrated form" as recited in instant claim 15. However, as discussed above, Moreland teaches adding a fragrant oil to an ink composition. In example 1, Moreland adds a perfume to an ink composition. Moreland does not disclose that the fragrant oil, e.g., perfume, is mixed or diluted with a solvent or any other component before being added to the ink composition. Thus, it appears that the Moreland fragrant oil, e.g., the perfume in example 1, is added to the ink composition in "concentrated form" as recited in instant claim 15. The burden is on applicants to prove otherwise. In re Fitzgerald, 205 USPQ 594 (CCPA 1980). In any event, it would have been obvious for a person having ordinary skill in the art to vary the concentration of the fragrant oils to adjust the smelliness of the printed matter.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Moreland, to add

at least one fragrant oil as taught by Moreland in the color liquid inks comprising a colorant in a non-aqueous solvent disclosed by Miyazaki, such that the resultant color liquid inks are scented color liquid inks as taught by Moreland. It would have also been obvious for that person to use the resultant scented color liquid inks in the ink-jet recording section in the image forming apparatus disclosed by Miyazaki. That person would have had a reasonable expectation of successfully obtaining an image forming apparatus that provides scented color printed media.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (571) 272-1382. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Mark Huff, can be reached on (571) 272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry regarding papers not received regarding this communication or earlier communications should be directed to Supervisory Application Examiner Ms. Sandra Sewell, whose telephone number is (571) 272-1047.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Janis L. Dote/
Primary Examiner, Art Unit 1795

JLD
July 30, 2010